

Innovation and sustainability

What is a sustainable innovation?

- <https://youtu.be/li0EpfSbOJg>

Introduction

What topic in innovation could be more important than the issue of how it is harnessed to ensure economic sustainability?

With this lesson we will highlight two very important issues that every student of innovation should think about.

1. will markets give enough support to innovations that improve sustainability?
2. why does innovation have unexpected side-effects that threaten sustainability?

DO MARKETS SUPPORT SUSTAINABLE INNOVATIONS?

Suppose an innovator comes up with an improved version of a product (X2) which is more environmentally friendly than the original version (X1).

Will the market provide enough incentive for the innovator to introduce the environmentally friendly version?

A typical economist's response might be as follows.

If the environmentally friendly version (X2) is more expensive than the original (X1) then the market may not support it.

The customer faced with a choice between X1 and X2 may stick with former because it is cheaper and the benefits of the latter are not fully understood.

Or, even if the customer understands the environmental benefits in principle, he reasons that his personal consumption behaviour could only make a negligible effect on the environment. Either way, the market does not support the new version (X2).

DO MARKETS SUPPORT SUSTAINABLE INNOVATIONS?

This is a standard argument about the effects of externalities.

- If a product (X1) generates **positive** externalities for the environment, then there will be a tendency to produce and consume too much for the good of the environment.
- But if a product generates **negative** externalities for the environment, then there will be a tendency to produce and consume too little for the good of the environment. And that is what happens here.

DO MARKETS SUPPORT SUSTAINABLE INNOVATIONS?

How do we resolve this problem of externalities?

The generic solution is to **internalise the externalities**.

This could be done by taxing those who use 'dirty' technologies in proportion to the environmental damage they do, and/or subsidising those who use 'clean' technologies.

That is the sort of reasoning that underpins the current approach to carbon pricing: those who leave a large carbon footprint have to pay for the privilege by buying carbon emission permits, while those who think they could adopt a cleaner technology which leaves a modest carbon footprint can benefit from their virtue by selling their carbon permits.

DO MARKETS SUPPORT SUSTAINABLE INNOVATIONS?

Another approach to dealing with the problem of externalities is to **set standards and regulations for polluting emissions.**

➤ producers and users simply must adopt sufficiently clean technologies: to continue to use a 'dirty' technology and pay for the right to do so is not an option.

In that case, if the new product (X2) meets the standards and regulations while the old product (X1) does not, then the market will support the adoption of X2.

DO MARKETS SUPPORT SUSTAINABLE INNOVATIONS? An example

In Italy the 2022 Furniture and Appliances Bonus consists of a 50% personal income tax deduction for the purchase of furniture and appliances of at least A + class (A for ovens), intended to furnish a property undergoing renovation.



Why Innovate Sustainably?

Companies succeed when they are sustainable.

1. A sustainability orientation leads to more innovation and better innovation. Firms involved in sustainable innovation think more broadly and learn from different perspectives.
2. Companies that care about sustainability are also more resilient compared to their competitors: especially important in a turbulent world. Companies with a sustainability orientation were more likely to survive through crises, experienced less share price volatility, and generated more revenues over the long run than those without a sustainability orientation
3. Sustainable companies attract talented employees. Compared to their non-sustainable competitors, sustainability-oriented companies bring in better people.
 - In a recent Deloitte survey of millennials and Gen Zs, 49% said that their personal ethics have played a role in their career choices.

There's no alternative to sustainable development.

Many companies are convinced that the more environment-friendly they become, the more the effort will erode their competitiveness.

“Making our operations sustainable and developing “green” products places us at a disadvantage vis-à-vis rivals in developing countries that don’t face the same pressures”

They believe it will add to costs and will not deliver immediate financial benefits.

- Suppliers can't provide green inputs or transparency;
- sustainable manufacturing will demand new equipment and processes;
- customers will not pay more for eco-friendly products during a recession.

That's why most executives treat the need to become sustainable as a **corporate social responsibility, divorced from business objectives.**

There's no alternative to sustainable development.

Not surprisingly, the fight to save the planet has turned into a pitched battle between governments and companies, between companies and consumer activists, and sometimes between consumer activists and governments.

- One solution, mooted by policy experts and environmental activists, is more and increasingly tougher regulation. They argue that voluntary action is unlikely to be enough.
- Another group suggests educating and organizing consumers so that they will force businesses to become sustainable. Although both legislation and education are necessary, they may not be able to solve the problem quickly or completely.

There's no alternative to sustainable development.

Executives behave as though they have to choose between the largely social benefits of developing sustainable products or processes and the financial costs of doing so.

But that's simply not true.

The research shows that sustainability is a mother lode of organizational and technological innovations that yield both bottom-line and top-line returns. Becoming environment-friendly lowers costs because companies end up reducing the inputs they use.

In addition, the process generates additional revenues from better products or enables companies to create new businesses. In fact, because those are the goals of corporate innovation, smart companies now treat sustainability as innovation's new frontier.

https://multimedia.europarl.europa.eu/en/video/eprs-ecodesign-for-sustainable-products_EP144066

https://multimedia.europarl.europa.eu/en/video/p_EP144052